Grand River Grasslands

Conservation Opportunity Area

Central Dissected Till Plains

Pawnee Prairie Conservation Area provides a landscape view of the once-vast sea of grass mantling the northern Missouri glaciated plains.

Tom Nagel, Missouri Department of Conservation

Grand River Grasslands is a native grassland and prairie restoration area in the Central Tallgrass Prairie Ecoregion. The diversity of grassland wildlife, including a small population of greater prairie-chickens, confirms that this is one of the best places in Missouri to restore a functioning tallgrass prairie ecosystem.

Land survey maps from the 1840s indicate that approximately 95% of this landscape existed historically as open, rolling prairie. The rest consisted of "timber" or "scattering timber" – savannas largely confined to area drainages.

Today, the land cover is roughly 84% grassland (mostly non-native brome and fescue pastures), 10% cropland and 4% forest and tree lines. Approximately half of the grasslands contain significant prairie vegetation that is restorable.

The West Fork of Big Creek flows through this landscape and is considered a high priority for prairie stream wildlife. Characteristic prairie fish include trout perch, black bullhead, orange-spotted sunfish and red shiner. The federally listed Topeka shiner occurred here historically; this fish is being considered for reintroduction into the watershed.

The Grand River Grasslands Conservation Opportunity Area (COA) supports several species of conservation concern, including northern prairie skinks, regal fritillary butterflys and prairie mound ants. Many important grassland birds (Henslow's sparrows, dickcissels, boblinks, northern harriers) breed within this landscape, benefiting from prairie restoration projects at Dunn Ranch and Pawnee Prairie.

Grand River Grasslands Conservation Strategies:

- Restore prairies and improve grasslands on private lands.
- Reduce woody plant invasion.
- Increase structural habitat diversity by promoting grazing management and increasing prescribed burns.
- Control populations of problem exotic plants (e.g., Canada thistle, sericea lespedeza).
- Continue to expand and improve native seed nurseries.
- Establish a self-sustaining population of Topeka shiners in ponds.

Jim Rathert, Missouri Department of Conservation

The Nature Conservancy and the Missouri Department of Conservation are partnering along with private landowners to build a 25,000-acre Grassland Coalition Focus Area in Harrison County.

Priority Research and Inventory Needs

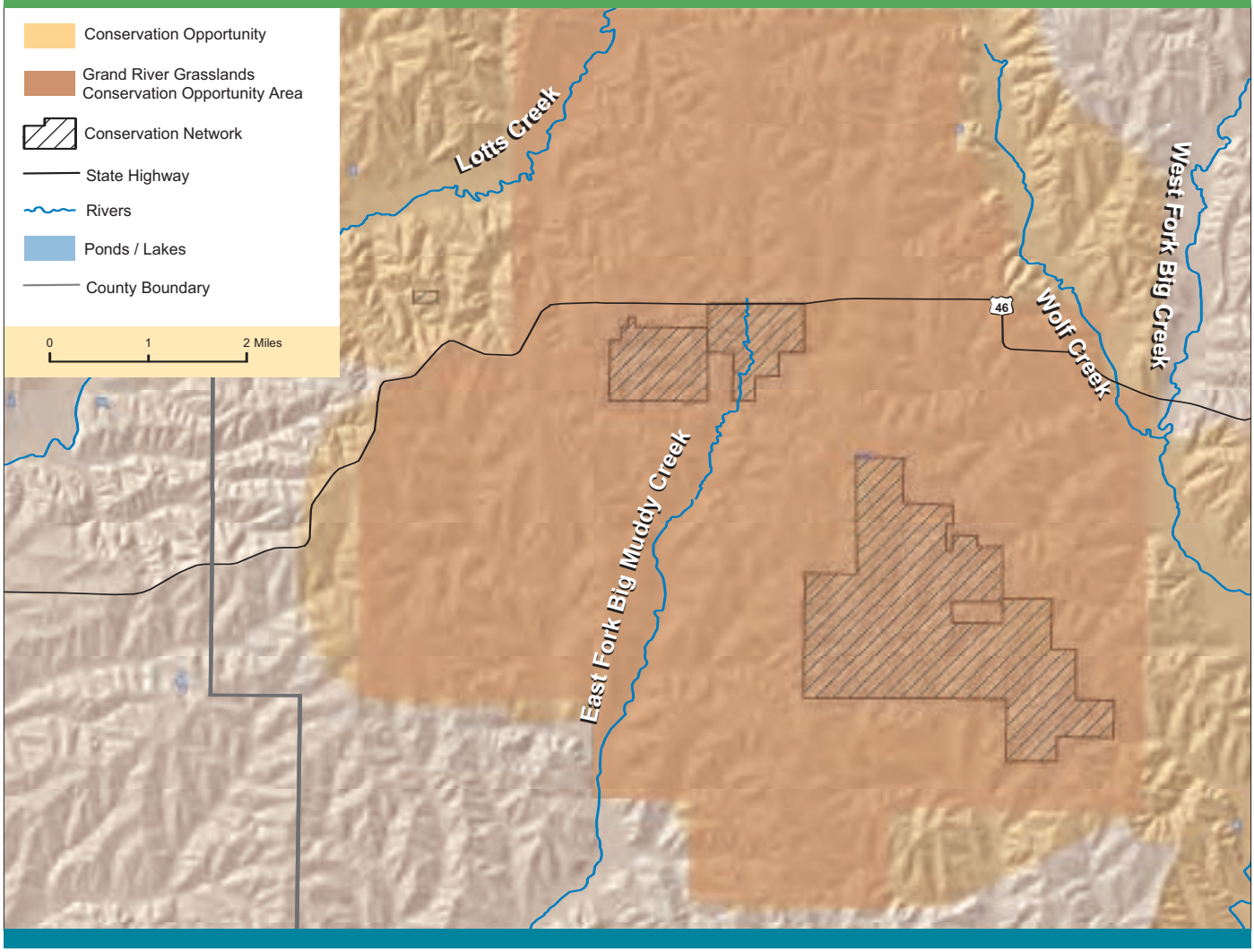
- Inventory remnant prairies and prairie indicator species.
- Determine the effectiveness of patch-burn grazing systems.
- Evaluate Topeka shiner introductions, consistent with Topeka shiner state action plan.
- Inventory amphibians, reptiles and insects.

Conservation Partners

Existing: The Nature Conservancy – Missouri Chapter (TNC); Grasslands Coalition; Missouri Conservation Heritage Foundation (MCHF); U.S. Fish & Wildlife Service (USFWS); Natural Resources Conservation Service; Iowa Department of Natural Resources; Missouri Department of Conservation (MDC)

Potential: Audubon Missouri; National Wild Turkey Federation; Missouri Prairie Foundation; Quail Unlimited

Grand River Grasslands Conservation Opportunity Area



Jim Rathert, Missouri Department of Conservation

Funding Sources

Existing: MDC annual budget; TNC annual budget; National Fish and Wildlife Foundation Grant; USFWS Partners for Fish and Wildlife Program; MCHF Grant

Promising Future Sources: MDC State Wildlife Grants; MDC Wildlife Diversity Fund; MDC Landowner Incentive Program

Existing Conservation Network

Dunn Ranch Preserve; Pawnee Prairie Conservation Area (Pawnee Prairie Natural Area)

The northern harrier is one of the few hawks that nest on the ground. With the destruction of native prairies, these birds nest only infrequently in Missouri.

Native Seed Nursery

In June 1999, volunteers from The Nature Conservancy and Missouri Department of Conservation planted thousands of native prairie plant seedlings at Pawnee Prairie to have a reliable source of seeds for future restoration projects. Since then, the native seed nursery has been expanded to include 35 species of native prairie plants.

Missouri Department of Conservation

Conservation Challenges

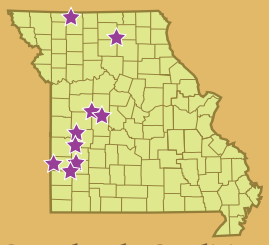
The Grand River Grasslands Conservation Opportunity Area represents a bi-state effort to conserve native tallgrass prairie at a landscape scale. Conservation partners on both sides of the Missouri-Iowa border are working to restore a functional tallgrass prairie landscape. Potential challenges to conservation success include lack of baseline information on prairie remnants, lack of reliable land cover data, changing ownership patterns, limited staff time and the challenge of finding willing and interested private landowners to conduct fire management, convert fescue to native grasses and control exotic species.

To learn more about the Grand River Grasslands Conservation Opportunity Area, please contact:

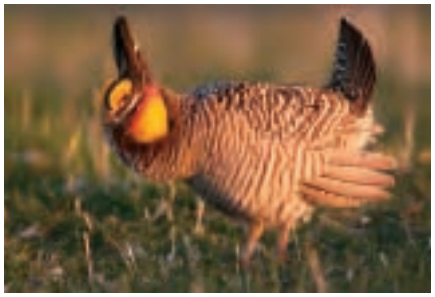
Missouri Department of Conservation
Wildlife Division
P.O. Box 180
Jefferson City, MO 65102-0180

Greater Prairie-Chicken

Recovery Initiative



Grasslands Coalition Focus Areas



Greater Prairie-chicken

Prairie-chicken Lek

Native Prairie

As a result of continuing population declines throughout the state, the Missouri Department of Conservation (MDC) added the greater prairie-chicken to Missouri's endangered species list in 1999.

Greater prairie-chickens once thrived on the vast tracts of open grassland that blanketed a third of the state. Now just a fraction of a percent of native prairie remains. The greater prairie-chicken is just one of many prairie species imperiled by the loss of tallgrass prairie habitats.

The key to conserving prairie-chickens and other tallgrass prairie species is cooperative land management across prairie landscapes. Conservation at the scale needed will necessarily involve many partners, including the residents of Missouri communities that share a common geography with remnant tallgrass prairie habitats and the remaining prairie-chicken populations.

The Grasslands Coalition, a public/private partnership committed to the conservation of Missouri's native grasslands, is refocusing conservation attention on recovering this symbol of healthy tallgrass prairie ecosystems.

Working together, we can recover the prairie-chicken in Missouri. The Grasslands Coalition invites your input and participation in this conservation project.

Recovery Goal: Remove greater prairie-chickens from the state's endangered species list.

- Recovery will be considered accomplished when Missouri has a statewide population of at least 3,000 birds throughout the Grasslands Coalition Focus Areas for 10 years.

Grassland Habitat Goal: Each prairie-chicken population will require a minimum of 4,000 acres of grassland habitat within a 10,000 acre landscape.

- The 4,000 acres of managed grassland bird habitat should include a protected 2,000 acre core centered on prairie chicken leks and scattered tracts making up the remaining 2,000 acres. At least half of these scattered tracts should be greater than 100 acres.

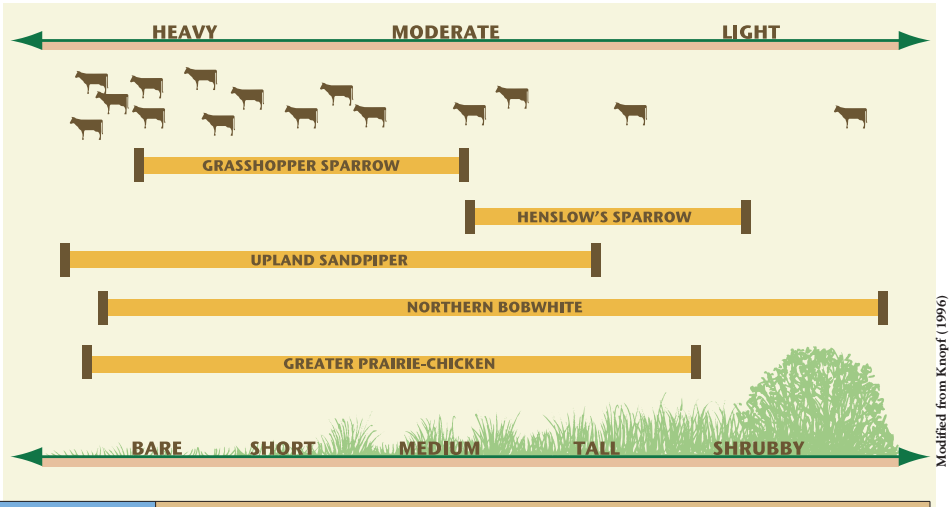
Targeted Landscape	Targeted Species
Native prairie/wildlife friendly grassland complexes	Greater Prairie-chicken, Grasshopper Sparrow, Henslow's Sparrow, Upland Sandpiper

Other Species that will Benefit

Eastern Prairie Fringed Orchid, Western Prairie Fringed Orchid, Oklahoma Sedge, *Carex bicknellii, Carex missouriensis, Carex opaca*, Wolf's Spike Rush, Mead's Milkweed, American Burying Beetle, Prairie Mole Cricket, Regal Fritillary, Grassland Crayfish, Northern Crawfish Frog, Slender Glass Lizard, Bullsnake, Ornate Box Turtle, Topeka Shiner, Bobolink, Bell's Vireo, Scissor-tailed Flycatcher, Dickcissel, Eastern Meadowlark, Northern Harrier, Sedge Wren, Loggerhead Shrike, Swainson's Hawk, Hispid Cotton Rat, Prairie Vole, Black-tailed Jack Rabbit

Photos: Jim Rathert, Missouri Department of Conservation

Grassland birds require a wide variety of plant heights and densities ranging from bare ground to tall grasses. One method used to produce this structural diversity in grasslands is called patch burn grazing. Patch burn grazing mimics the historical interaction of two ecological processes that shaped native prairies–fire and grazing. Each year a third of the pasture is burned. The lush regrowth focuses grazing within the burned area. The burned unit shifts from year to year, providing varied structure throughout the managed area.



Modified from Knopf (1996)

Desired Change	Proposed Monitoring
↑ Increasing numbers of prairie-chickens	Population survey of prairie-chickens annually
↓ Decreased fragmentation in prairie landscapes	Periodic assessment of land cover using satellite imagery or aerial photography
↑ Increased acres of prescribed fire management, rest-rotation and patch-burn grazing	Acres benefited as reported by MDC Private Lands program monitoring
↓ Decreased acres of grassland dominated by fescue	Periodic assessment of land cover using satellite imagery or aerial photography/ground truthing
↑ Increased acres of cropland restored to native grasses and prairie forbs or wildlife friendly grasses	Periodic assessment of land cover using satellite imagery or aerial photography
↓ Declining amount of sericea lespedeza due to active control methods	Field visits and regular site evaluations
↑ Improved native plant community composition on remnant prairies	Vegetation sampling to detect changes in conservative prairie plants at 3-year intervals
↑ Increased community awareness and involvement in prairie conservation	Human dimensions survey and workshops

This initiative represents just one aspect of tallgrass prairie conservation. The Grasslands Coalition seeks long-term protection of prairie landscapes including the full array of native natural communities and species.

To learn more, please contact:

Missouri Department of Conservation
Wildlife Division
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Jefferson City, MO 65102-0180